भारतीय मानक
Indian Standard

IS 2556 (Part 6) : 2021

काँचाभ चीनी मिट्टी के स्वच्छता उपकरण — विशिष्टि

भाग 6 मूत्रालयों और विभाजन पट्टिका की विशिष्ट अपेक्षाएँ

(पाँचवा पुनरीक्षण)

Vitreous China Sanitary Appliances — Specification

Part 6 Specific Requirements of Urinals and Partition Plates

(Fifth Revision)

ICS 91.140.70

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भारतीय मानक ब्यूरो
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December 2021 **Price Group 7**

Sanitary Appliances and Water Fittings Sectional Committee, CED 03

FOREWORD

This Indian Standard (Fifth Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Sanitary Appliances and Water Fittings Sectional Committee had been approved by the Civil Engineering Divisional Council.

This standard was first published in 1963 and subsequently revised in 1967, 1974, 1979 and 1995. In the last revision of the standard, changes found necessary in the light of the feedback made available by users and improvements made by the vitreous China sanitaryware industry were incorporated. Attempts were made to make it comparable with overseas standards as a measure of export promotion. Urinals and partition plates covered under Sections 1 to 4 of IS 2556 (Part 6) : 1979 were combined in the last revision, and the nomenclature of 'half stall urinals' was changed to 'Bowl urinal (flat back) without flushing rim' and 'Bowl urinal (angle back) without flushing rim'.

In this revision of the standard, the following major modifications have been made:

a) The main title of the standard has been modified from 'Vitreous sanitary appliances (vitreous China)' to 'Vitreous China sanitary appliances'.

b) A clause on terminology has been incorporated for defining some of the important terms used in this standard.

c) The term bowl-pattern urinal has been modified to wall-hung urinal as per the international practice.

d) Sensor fitted urinals have been incorporated.

e) Wall-hung urinals for non-ambulatory disabled persons and children have also been incorporated.

f) Requirements for cleanability test has been modified to make it more stringent.

g) Additional performance tests for urinals, namely, splash test, distortion and leakage test, and discharge test have been incorporated.

h) As automatic flushing cistern as per IS 2326 : 1987 'Specification for automatic flushing cisterns for urinals (other than plastic cisterns) (*second revision*)' is now obsolete, use of flushing cisterns as per IS 774 : 2021 'Ceramic (Vitreous China) flushing cisterns for water closets and urinals — Specification (*sixth revision*)' or IS 7231 : 2021 'Plastic flushing cistern for water closets and urinals — Specification (*third revision*)' has been specified.

j) Additional requirements for water efficiency rating and labelling of urinals have been incorporated through reference to the concerned Indian Standard.

Urinals without flushing rim and overflow as compared to urinals with rim and overflow are more hygienic and can be cleaned more easily.

The composition of the Committee responsible for the formulation of this standard is given in Annex A.

For the purpose of deciding whether a particular requirement of this standard is complied with the final value, observed or calculated, expressing the result of a test or analysis shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

VITREOUS CHINA SANITARY APPLIANCES — SPECIFICATION

PART 6 SPECIFIC REQUIREMENTS OF URINALS AND PARTITION PLATES

(Fifth Revision)

1 SCOPE

1.1 This Standard (Part 6) covers the requirements for patterns and sizes, dimensions, construction, finish, inspection and tests, sampling and marking of vitreous China urinals and partition plates.

1.2 This standard also covers additional requirements for water efficiency rating and labelling of vitreous China urinals.

1.3 IS 2556 (Part 1) is a necessary adjunct to this standard.

1.4 This standard does not cover requirements for waterless urinals.

2 REFERENCES

The Indian Standard given below contain provisions, which, through reference in this text, constitute provisions of this standard. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreement based on this standard are encouraged to investigate the possibility of applying the most recent edition of the standards given below:

IS No.	*Title*
774 : 2021	Ceramic (vitreous China) flushing cisterns for water closets and urinals — Specification (*sixth revision*)
7231 : 2021	Plastic flushing cistern for water closets and urinals — Specification (*third revision*)
2556 (Part 1) : 2021	Vitreous China sanitary appliances — Specification: Part 1 General requirements (*fourth revision*)
9140 : 1996	Methods for sampling of vitreous and fire clay sanitary appliances (*second revision*)
IS 17650 (Part 1) : 2021	Water efficient plumbing products — Requirements: Part 1 Sanitaryware
SP 7 : 2016	National Building Code of India 2016

3 TERMINOLOGY

For the purpose of this standard, the definitions given in IS 2556 (Part 1) and the following shall apply.

3.1 Wall-Hung Urinal — Sanitary appliance comprising a bowl to be fixed to a wall, for receiving urine and water used for flushing and directing both into a drainage system.

3.2 Sensor Operated Urinal — A urinal in which water flow for cleaning is controlled by solenoid valve fitted along with sensor mechanism.

3.3 Waterless Urinal — Sanitary appliance for receiving urine and directing it into a drainage system, which functions without the use of water.

4 GENERAL REQUIREMENTS

4.1 The general requirements, such as those relating to material, manufacture and defects, minimum thickness, and performance requirements as covered in IS 2556 (Part 1), shall be complied with.

4.2 Tolerances where not given for specific dimensions in this standard, shall conform to IS 2556 (Part 1).

5 PATTERNS AND SIZES

5.1 The urinals shall be of one of the following patterns and sizes:

a) Wall-hung urinal (flat back) with flushing rim (*see* Fig. 1), of sizes:
   1) Size 1 — 440 × 265 × 355 mm with side fixing arrangements; and
   2) Size 2 — 440 × 265 × 315 mm with top and bottom fixing arrangements.

b) Wall-hung urinal (flat back) without flushing rim (*see* Fig. 2), of sizes:
   1) Size 1 — 410 × 265 × 305 mm, and
   2) Size 2 — 590 × 375 × 390 mm.

c) Wall-hung urinal (angle back) with flushing rim (*see* Fig. 3), of size:
   1) Size — 345 × 420 × 270 mm.

d) Wall-hung urinal (angle back) without flushing rim (*see* Fig. 4), of sizes:
   1) Size 1 — 450 × 350 × 275 mm, and
   2) Size 2 — 580 × 500 × 300 mm.

e) Sensor operated wall-hung urinals (*see* Fig. 5):
   1) Size 1 — 610 × 370 × 390 mm.

f) Wall-hung urinal for non-ambulatory disabled persons and children (*see* Fig. 6), of size:
   1) Size 1 — 450 × 370 × 330 mm.

g) Squatting urinal (*see* Fig. 7), of sizes:
   1) Size 1 — 450 × 350 mm, and
   2) Size 2 — 600 × 350 mm.

5.2 Partition plates shall be one or the following sizes (*see* Fig. 8).

a) Size 1 — 675 × 325 × 85 mm, and
b) Size 2 — 825 × 450 mm × 100 mm.

5.3 Urinals and partition plates may be made in other patterns and sizes where so agreed between the manufacturer and the purchaser. However, except for functional dimensions, all other requirements as laid down in this standard shall be complied with.

5.4 In a sensor operated urinal, the sensors may also be separately placed on the wall and connected with the urinals through pipe for water supply in the urinal. These urinals are generally provided with a back outlet.

5.5 Urinals for persons with disabilities shall be a sensor operated urinal. These urinals shall have a back outlet, or shall be such that the space below the urinal is free of pipework up to a height of 200 mm above the floor and up to a depth of 360 mm from the outer face of the urinal rim. Urinal shall be minimum 370 mm deep measured from the outer face of urinal rim to the back of fixture.

NOTE — Wheelchair users may be able to pull themselves to a standing position to use a urinal, or they may be able to use a urinal from their wheelchair. Ambulant persons with disabilities, for example crutch users, may need support in front of urinals. Bowl urinals are preferable to slab urinals for the benefit of visually impaired. In order to ensure accessibility for persons with disabilities, the requirements relating to approach, grab bars, etc are given in Part 3 'Development Control Rules and General Buildings Requirements' of SP 7 : 2016. When urinals for persons with disabilities are fitted in the washroom/public toilet, it is recommended that at least one of these urinals has its rim set at a height of 380 mm for wheel chair user and at least one has its rim set at a height of 600 mm for standing user/ambulant.

6 DIMENSIONS AND TOLERANCES

6.1 Wall-Hung Urinal

6.1.1 Functional dimensions of wall-hung urinal (flat back) with flushing rim shall be as given in Fig. 1 and Table 1. Functional dimensions of wall-hung urinal flat back without flushing rim shall be as given in Fig. 2 and Table 1, Functional dimensions of wall-hung urinal (angle back) with flushing rim shall be as given in Fig. 3 and Table 1. Functional dimensions of wall-hung (angle back) urinal without rim shall be as given in Fig. 4 and Table 1.

6.1.1.1 *Sensor operated wall-hung urinal*

Functional dimensions of sensor fitted urinal with or without rim shall be as given in Fig. 5 and Table 1.

6.1.1.2 *Wall-hung urinal for non-ambulatory disabled persons and children*

Functional dimensions of wall-hung urinal for non-ambulatory disabled persons and children shall be as given Fig. 6 and Table 1.

6.1.2 Connecting dimensions are vital for the functioning and interchangeability of the system and shall be as given in Table 2 and Table 3. Ovality of 5 percent is permissible on inlet and outlet diameters.

Distance between pails of screw holes for wall-hung urinal (flat back) with flushing rim (*see* Fig. 1) shall be 395 mm for top/bottom fixing arrangement and 320 mm for side fixing arrangement.

6.1.2.1 Waste outlet hole provided in wall-hung urinal, both for flat back and angle back, without flushing rim shall be of dimensions given in Table 2, read with Fig. 9.

6.1.3 Where a closed channel with overflow is not provided, a domed grating with perforations starting from the base and the crown of which shall be 25 mm, minimum above the surface, shall be provided which may be integral or otherwise.

6.2 Squatting Urinals

6.2.1 *Functional Dimensions*

Functional dimensions shall be as given in Table 4, read with Fig. 7.

6.2.2 *Connecting Dimensions*

Connecting dimensions shall be as given in Table 5, read with Fig. 7.

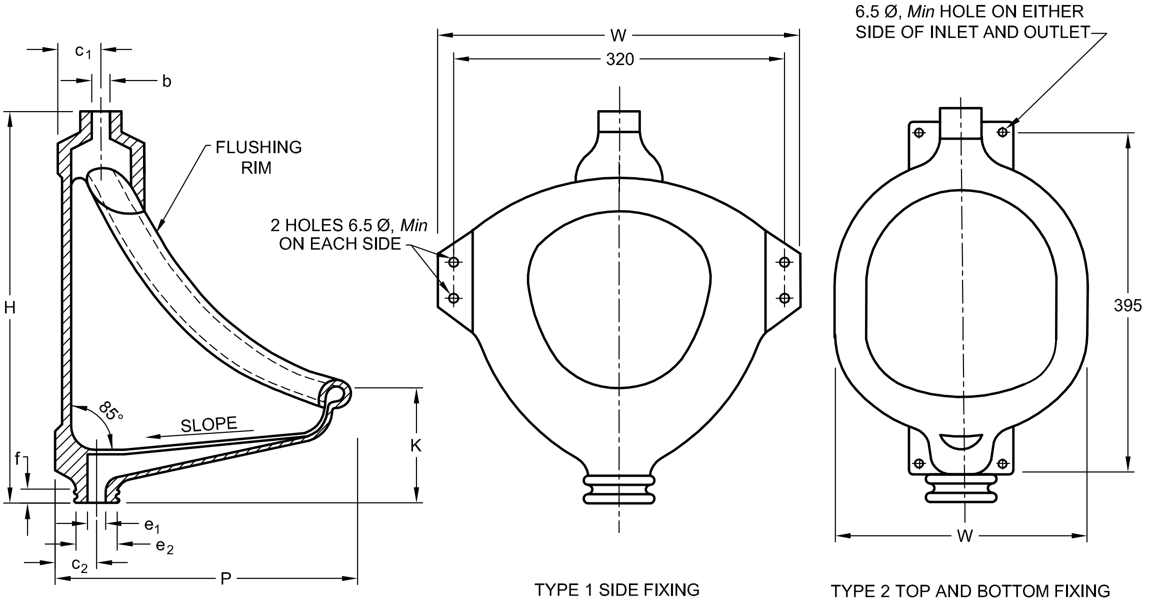
6.3 Partition Plates

6.3.1 *Functional Dimensions*

Functional dimensions shall be as given in Table 6, read with Fig. 8.

6.3.2 *Connecting Dimensions*

Connecting dimensions shall be as given in Table 7, read with Fig. 8.


c1
b
H
FLUSHING RIM
85°
SLOPE
f
K
e1
e2
c2
P
W
320
2 HOLES 6.5 Ø, *Min* ON EACH SIDE
6.5 Ø, *Min* HOLE ON EITHER SIDE OF INLET AND OUTLET
395
W

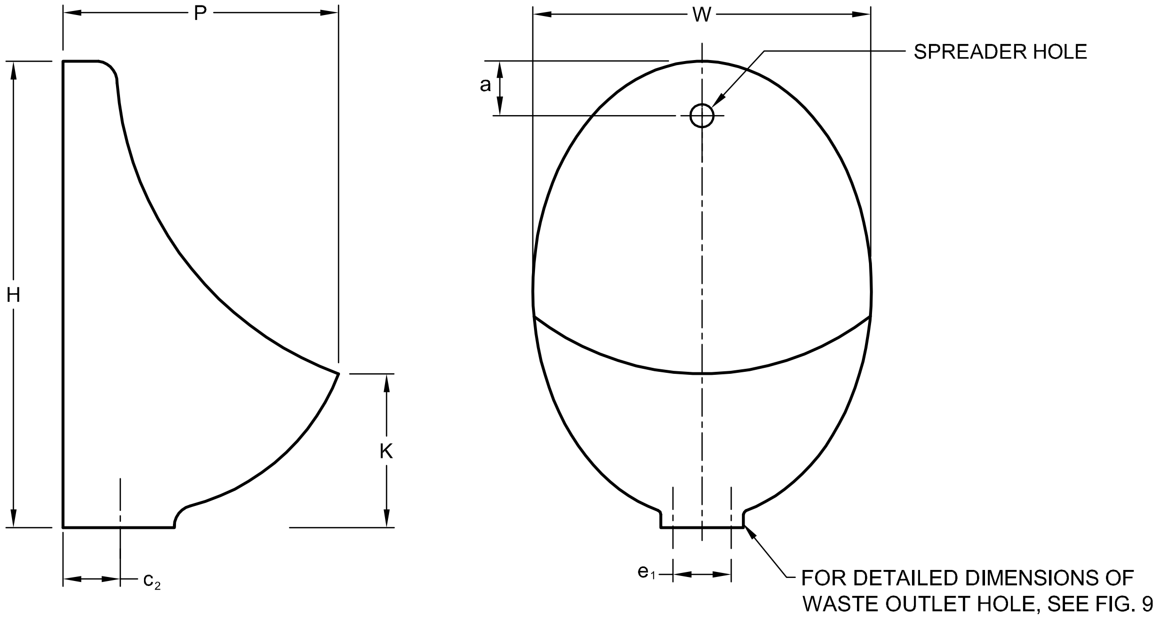
TYPE 1 SIDE FIXING

TYPE 2 TOP AND BOTTOM FIXING

NOTE — Where a closed channel with overflow is not provide, a domed grating with perforations starting from the base and the crown of which shall be 25 mm minimum above surface shall be provided which may be integral or otherwise.

All dimensions in millimetres.

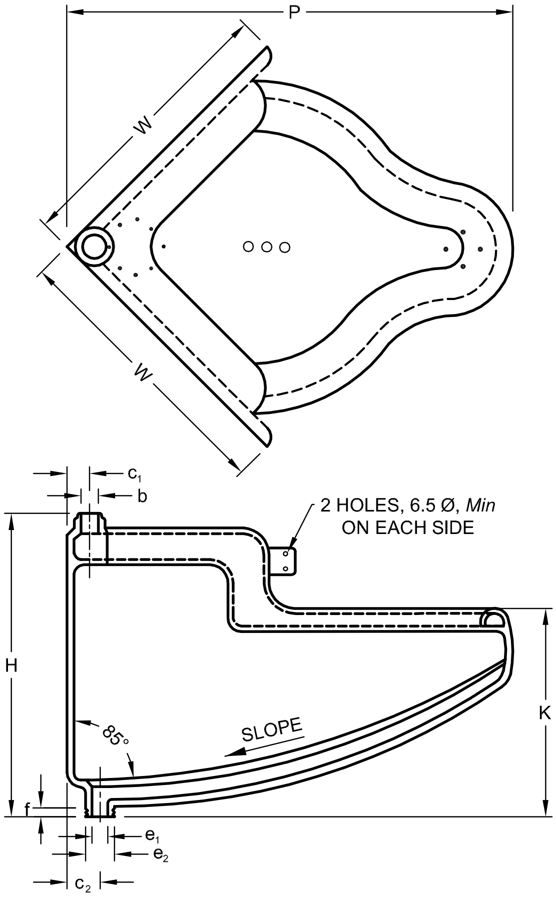
FIG. 1 WALL-HUNG URINAL (FLAT BACK) WITH FLUSHING RIM



NOTE — Spreader hole may not be provided in the urinal, and in that case the spreader may be installed on the top of the urinal.

All dimensions in millimetres.

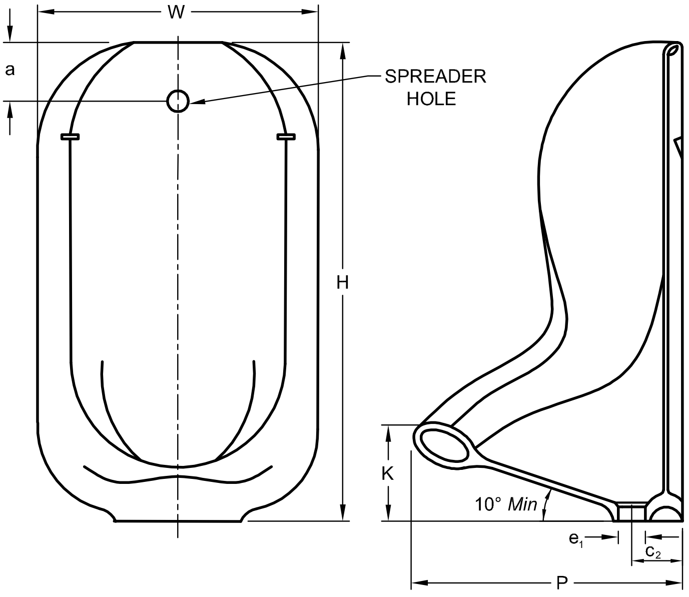
FIG. 2 WALL-HUNG URINAL (FLAT BACK) WITHOUT FLUSHING RIM



All dimensions in millimetres.

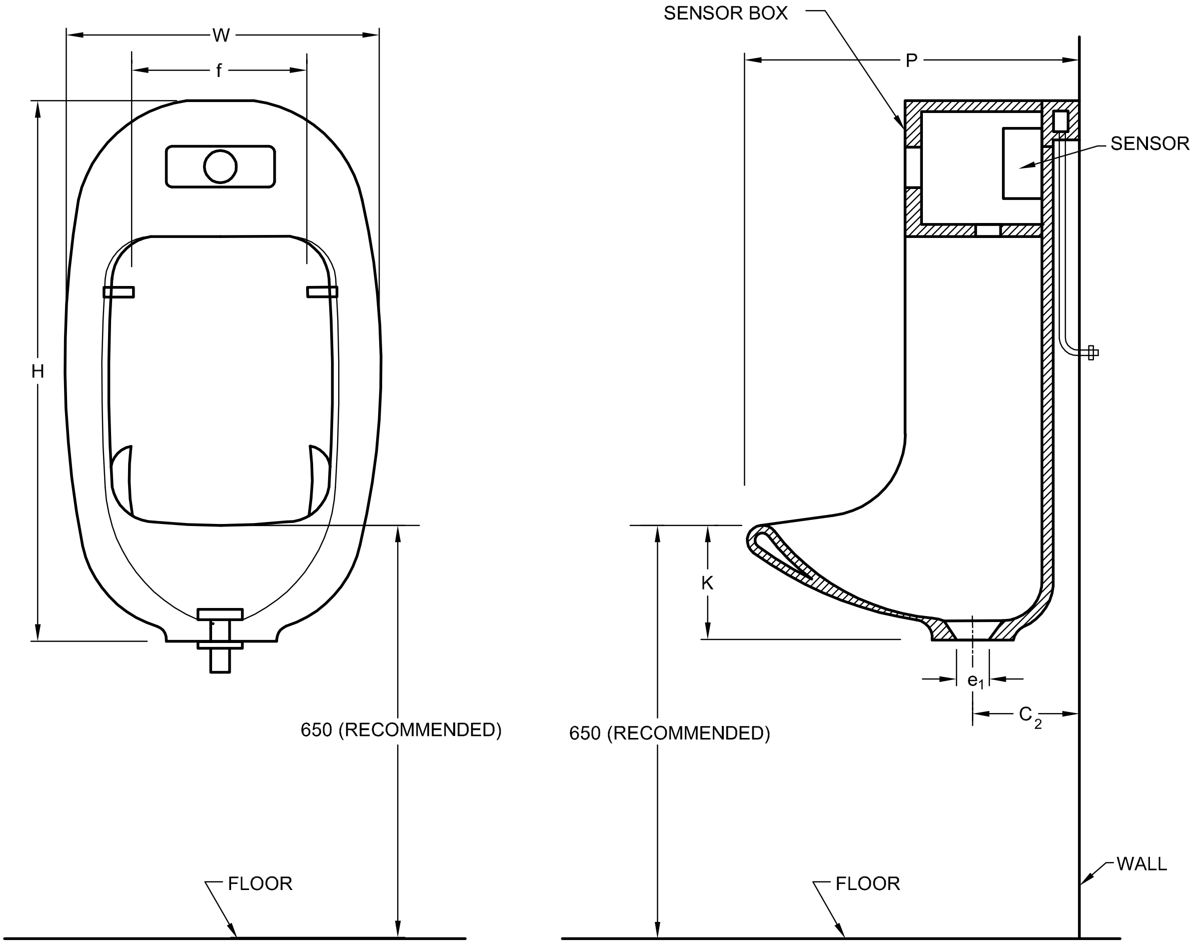
NOTE — Ovality of 5 percent is permissible on inlet and outlet diameters.

Fig. 3 Wall-Hung Urinal (Angle Back) with Flushing Rim



NOTE — Spreader hole may not be provided in the urinal, and in that case the spreader may be installed on the top of the urinal.

Fig. 4 Wall-Hung Urinal (Angle Back) without Flushing Rim

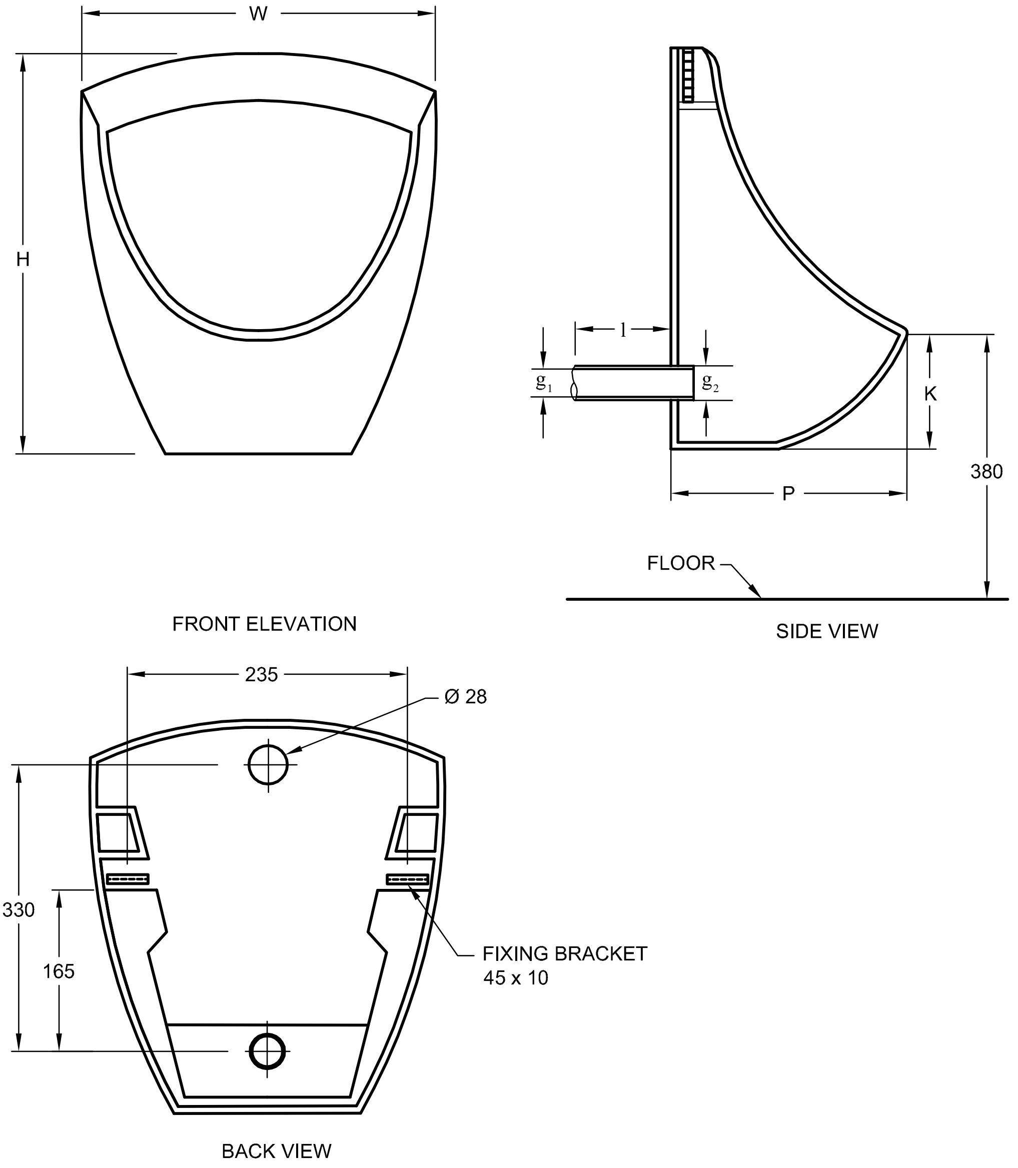


FRONT VIEW

SECTIONAL VIEW

All dimensions in millimetres.

FIG. 5 SENSOR-FITTED WALL-HUNG URINAL (FLAT BACK) WITH OR WITHOUT FLUSHING RIM



All dimensions in millimetres.

Fig. 6 Wall-Hung Urinal for Non-Ambulant Disabled Persons and Children

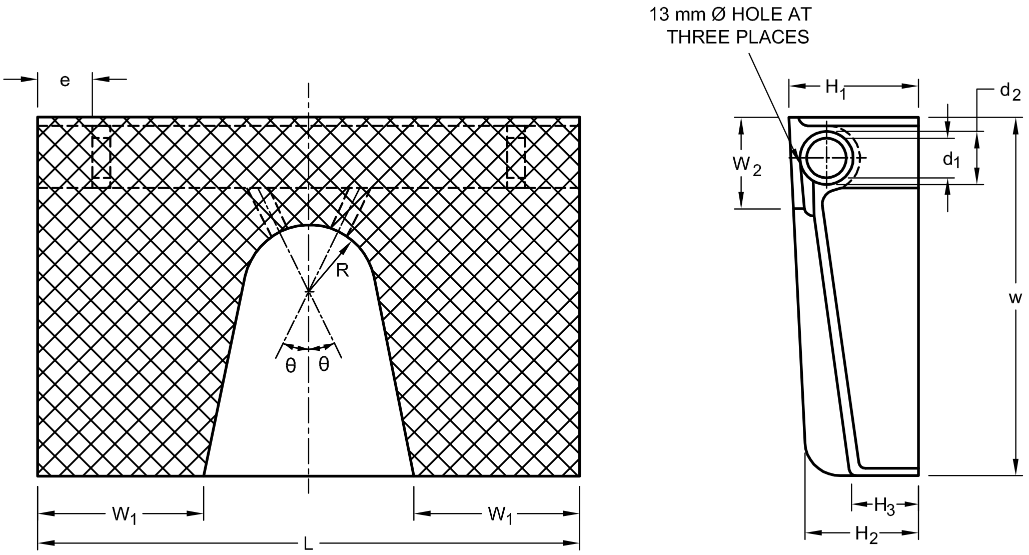
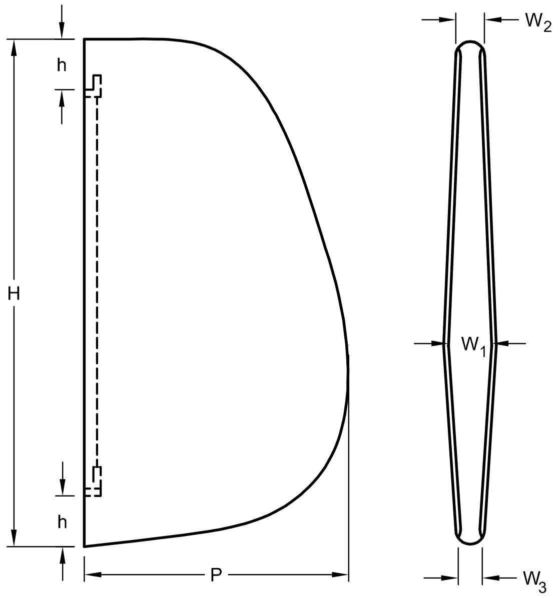


Fig. 7 Squatting Urinal



NOTE — Alternative arrangement may be provided for fixing the plate at the bottom portion but the height '*H*' should not be reduced.

Fig. 8 Partition Plates

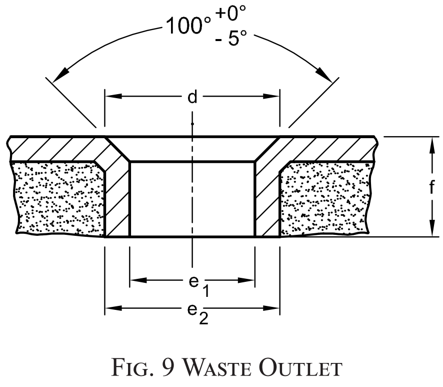


Fig. 9 Waste Outlet

Table 1 Functional Dimensions of Wall-Hung Urinals (With or Without Sensor)

(*Clauses* 6.1.1, 6.1.1.1 *and* 6.1.1.2)

All dimensions in millimeters.

Sl No.	**Pattern**	**Ref to Fig.**	**Dimension**			
			Height *H*	Projection Angle *P*	Width *W*	Distance *K, Min*
(1)	(2)	(3)	(4)	(5)	(6)	(7)
i)	Wall-hung urinal (flat back) with flushing rim					
	Size 1	1	440	265	355	140
	Size 2		440	265	315	140
ii)	Wall-hung urinal (angle back) without flushing rim					
	Size 1	2	410	265	305	100
	Size 2		590	375	390	100
iii)	Wall-hung urinal (angle back) with flushing rim	3	345	420	270	140
iv)	Wall-hung urinal (angle back) without flushing rim					
	Size 1	4	450	350	275	100
	Size 2		580	500	300	100
v)	Sensor fitted wall-hung urinal with or without rim	5	610	370	390	140
vi)	Wall-hung urinal for non-ambulant disabled persons and children	6	450	370	330	100

Table 2 Connecting Dimensions of Wall-Hung Urinals (Other than Sensor Fitted Urinals with Back Outlet and Urinals for Non-Ambulatory Disabled Persons and Children)

(*Clauses* 6.1.2 *and* 6.1.2.1)

All dimensions in millimetres.

Sl No.	**Pattern**	**Ref. to Fig.**	**Dimensions**							
			a	b[1]	c_1	c_2	d	e_1	e_2, *Min*	f, *Min*
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
i)	Wall-hung urinal (flat back) with flushing rim	1	–	20 ± 3	40 ± 5	50 ± 5	–	35 ± 2	55	20
ii)	Wall-hung urinal (flat back) without flushing rim	2, 9	75 *Max*	20 ± 3	–	100 *Min*	65 ± 5	45 ± 2	60	20
iii)	Wall-hung urinal (angle back) with flushing rim	3	–	20 ± 3	35 ± 2	65 ± 5	–	35 ± 2	55	20
iv)	Wall-hung urinal (angle back) without flushing rim	4, 9	–	20 ± 3	–	100 *Min*	65 ± 5	45 ± 2	60	20
v)	Wall-hung sensor operated urinal with flushing rim and bottom outlet	–	–	20 ± 3	–	–	–	35 ± 2	55	20
vi)	Wall-hung sensor operated urinal with bottom outlet and without flushing rim	–	–	20 ± 3	–	–	–	45 ± 2	60	20

Key

a = Dimension from top of bowl to centre of water supply hole or spreader;

b = Diameter of water supply hole;

c_1 = Distance from centre of water supply hole to back of bowl;

c_2 = Distance from centre of waste outlet to back of bowl;

d = Dimension of outlet of the waste flange;

e_1 = Internal diameter of waste outlet;

e_2 = Outside diameter of the outlet hole; and

f = Depth of waste outlet.

[1] Wherever, spreader hole is provided in the urinal.

Table 3 Connecting Dimensions of Wall-hung Urinals for Sensor fitted Urinals and Urinals for Non-ambulatory Disabled Persons and Children

(*Clause* 6.1.2)

All dimensions in millimetres.

Sl No.	Pattern	Ref. to Fig.	Dimensions		
			g_1	g_2	l, *Min*
(1)	(2)	(3)	(5)	(6)	(7)
i)	Sensor operated urinal with/without flushing rim and back outlet	5	25	40	30
ii)	Wall-hung urinals for sensor fitted urinals and urinals for non-ambulatory disabled persons and children	6	25	40	30

Key

g_1 = Internal diameter of waste outlet;

g_2 = Outside diameter of the outlet hole; and

l = Length of waste outlet.

Table 4 Functional Dimensions of Squatting Urinals

(*Clause* 6.2.1)

All dimensions in millimetres.

SI. No	Description	Ref. in Fig. 7	Size 1	Size 2
(1)	(2)	(3)	(4)	(5)
i)	Size	–	450 × 350	600 × 350
ii)	Length	L	450	600
iii)	Foot rest width, *Min*	W_1	125	165
iv)	Width	W	350	350
v)	Height at back end	H_1	100	100
vi)	Height at front end	H_2	85	85
vii)	Height at urinal draining surface, *Min*	H_3	50	50
viii)	Width at flat top	W_2	100	100
ix)	Radius of curvature of the urinal	R	65	65
x)	Angle of direction of the two end spray hole with that of the central one	Ø	30°	30°

Table 5 Connecting Dimensions of Squatting Urinals

(*Clause* 6.2.2)

All dimensions in millimetres.

Sl No.	Description	Ref. in Fig. 9	Size 1/Size 2
(1)	(2)	(3)	(4)
i)	Diameter of inlet hole	d_1 1)	40
ii)	Diameter of inlet socket	d_2 1)	50
iii)	Depth of the inlet socket, *Min*	e	25

1) Ovality is permissible within tolerance limit provided for the dimension.

Table 6 Functional Dimensions of Partition Plates

(*Clause* 6.3.1)

All dimensions in millimetres.

Sl No.	Description	Ref. in Fig. 9	Size 1	Size 2
(1)	(2)	(3)	(4)	(5)
i)	Size	–	675 × 325 × 85	825 × 450 × 100
ii)	Height	H	675	825
iii)	Projection of slab from wall, *Min*	P	325	450
iv)	Width near the center of the slab, *Min*	W_1	85	100
v)	Width at the top end, *Min*	W_2	50	75
vi)	Width at the bottom end, *Min*	W_3	50	55

Table 7 Connecting Dimensions of Partition Plates

(*Clause* 6.3.2)

All dimensions in millimetres.

Sl No.	Description	Ref. in Fig. 9	Size 1/Size 2
(1)	(2)	(3)	(4)
i)	Distance of the bracket resting surface from the nearest end of the plate, *Min*	h	70

6.4 Tolerances where not given for specific dimensions, shall conform to IS 2556 (Part 1).

7 CONSTRUCTION

7.1 Wall-hung urinals shall be of one piece construction.

7.1.1 Wall-hung urinal (flat back) with flushing rim (*see* Fig. 1) and wall-hung urinal (angle back) with flushing rim (*see* Fig. 3) shall have an integral flushing box rim with minimum 12 holes, well distributed in the rim to ensure satisfactory flushing. It shall have an integral outlet and overflow.

7.1.2 Wall-hung urinal (flat back) without flushing rim (*see* Fig. 2) and wall-hung urinal (angle back) without flushing rim (*see* Fig. 4) shall be without integral outlet and overflow. The bowls shall be suitable for use with a back inlet spreader or shall be provided with a top supply spreader. It shall be provided with waste outlet fitting to fit tightly in the waste outlet hole.

7.2 Wall-hung urinals shall be provided with adequate means of support, preferably of the concealed type. Alternately, where screw fixing holes are provided, each urinal shall have not less than two fixing holes on each side having a minimum diameter of 6.5 mm.

7.3 At the bottom of the wall-hung urinal (flat back and angle back) with flushing rim, an outlet horn for connecting to the trap and outlet pipe shall be provided. The exterior of the outlet horn shall not be glazed up to 20 mm and the surface shall be provided with grooves at right angles to the axis of the outlet to facilitate fixing of the outlet pipe with cement or other suitable binding material.

7.4 The sensor urinal shall be fitted with a sensing part assembly to sense the presence of user. Sensing assembly shall consist of:

a) infrared sensor,
b) solenoid valve, and
c) battery box.

The sensing distance of the sensor should have provision of adjusting the distance according to user and size of the urinal.

For electroplating immunity, 4 AA alkaline batteries/ electric supply are required for power supply.

The provision of adjustment of water flow through solenoid valve shall also be provided.

All above three components should be of any size according to the design of the urinal.

NOTE — In case of fitted sensor urinal, the supplied pressure of water is recommended in the range of 0.15 MPa to 0.30 MPa.

7.5 Squatting urinal shall be of one-piece construction having an integral longitudinal flushing pipe of suitable type which may be connected to the flush pipe. The integral flushing type shall be connected to the sump by three 13 mm diameter holes (*see* Fig. 7).

7.6 The inside surface of all urinals shall be regular and smooth to ensure efficient flushing. The bottom of the urinal shall have sufficient slope from the front towards the outlet such that there is efficient draining of the urinal.

7.7 The design of urinals shall be such that when properly installed there should be no liquid left over in the bottom of the urinal after flushing.

7.8 Partition plates shall be of one piece construction and provided with fixing arrangement at the flat back top and bottom. A counter sunk hole of diameter 8 mm (min) or any other arrangement for fixing at the bottom may also be provided for the purpose of keeping it fixed.

8 FINISH

Inside and outside visible surfaces of urinals shall be glazed, uniform and smooth. The finish shall ensure efficient flush. The inside surfaces of the inlet and outlet not visible shall be smooth but not glazed. In case of integrated outlets (*see* Fig. 1 and Fig. 3) the serrated part of the outlet shall not be glazed externally (*see* **7.3**).

9 PERFORMANCE TESTS

9.1 Cleanability Test

9.1.1 *Wall-hung Urinal*

The wall-hung urinal shall be tested for cleanability. For this, the bowl shall be mounted vertically in its normal position so that when flushed, the water is discharged against the bowl. The urinals which are meant for flushing with or without the help of spreaders should be fitted with a 12.5 mm bore spreader such that the spreader sits flushed with urinal back plate with slot of the spreader washing downwards. A 6.0/3.0 litres capacity flushing cistern conforming to IS 774 or IS 7231 shall be fixed with 20 mm bore flush pipe. Water should be discharged through reduced flush operation of the cistern. The height of the bottom of the tank to the end of the spreader or inlet socket shall not be less than 900 mm. However, in case of water efficient urinals, water volume shall be controlled with the help of sensor or any other mechanism.

The whole of the interior flushing surface of the bowl below the spreader or the flush rim shall be smudged with 0.2 percent solution of an organic dye and the urinal shall be flushed. Immediately after the flush, there shall be no colour left on the urinal, and cleanability shall be checked for that volume of water.

9.1.2 *Squatting Urinal*

The squatting urinal shall be tested for cleanability. For this, it shall be mounted on a horizontal plane. The inside flushing surface below the flush holes shall be smudged with 0.2 percent solution of an organic dye and 2.5 litres of water shall be poured along the side of the flush holes. Immediately after the flush, there shall be no colour left on the horizontal flushing surface.

9.2 Splash Test for Wall-Hung Urinal

During flushing, no splashing shall be permissible.

9.3 Distortion and Leakage Test for Wall-Hung Urinal

The outlet of urinal shall be tested with flange, which is used for sealing the outlet for drainage of water. This test is carried out with 1 N/mm^2 pressure of water applied for a period of 3 min, to ensure there is no leakage through flange joint.

9.4 Discharge Test

This test is carried out to measure the quantity of water flushed out after cleaning the bowl surface of urinal. The quantity of water flushed shall be measured for three operations, and the average of the results so obtained shall be calculated. The maximum discharge shall be not more than 3 litres/flush.

10 SAMPLING, PROCESS INSPECTION AND LOT INSPECTION AND CRITERIA FOR CONFORMITY

The recommended method of sampling, process inspection and lot inspection of urinals and partition plates, and criteria for conformity shall be as given in IS 9140.

11 ADDITIONAL REQUIREMENTS FOR WATER EFFICIENCY

For water efficiency rating and labelling of urinals, the requirements given in IS 17650 (Part 1) shall be complied with.

12 MARKING

12.1 Urinals and partition plates shall be clearly and indelibly marked at a suitable place with the following:

a) Name or trade-mark of the manufacturer,
b) Batch/lot number and date of manufacturing,
c) Pattern and size, and
d) Wording ‘Sensor Operated’ and/or ‘Suitable for use by Non-Ambulant Disabled Persons and Children’.

12.2 BIS Certification Marking

Each urinal conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the *Bureau of Indian Standards Act,* 2016 and the Rules and Regulations framed thereunder, and the urinal may be marked with the Standard Mark.

ANNEX A

(*Foreword*)

COMMITTEE COMPOSITION

Sanitary Appliances and Water Fittings Sectional Committee, CED 03

Organization	*Representative(s)*
Municipal Corporation of Greater Mumbai, Mumbai	Hydraulic Engineer (Shri A. S. Rathore) (***Chairman***)
Brihan Mumbai Licensed Plumbers' Association, Mumbai	Shri Kishor V. Merchant Shri Bijal M. Shah (*Alternate*)
Building Materials and Technology Promotion Council, New Delhi	Shri S. K. Gupta Shri C. N. Jha (*Alternate*)
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Delhi Jal Board, New Delhi	Chief Engineer (WW) II Superintending Engineer (NW) (*Alternate*)
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